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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,514	07/11/2003	Imran Khan	AMD-H0552	6596
7590 09/21/2004			EXAMINER	
WAGNER, MURABITO & HAO LLP			KEBEDE, BROOK	
Third Floor			ART UNIT	
Two North Market Street			2823	
San Jose, CA 95113			PAPER NUMBER	

DATE MAILED: 09/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/618,514	KHAN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Brook Kebede	2823	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 20 and 21 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-19 is/are allowed.
- 6) ☒ Claim(s) 1,2,9 and 10 is/are rejected.
- 7) ☒ Claim(s) 3-8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Election/Restrictions*

1. Applicants' election without traverse of Claims 1-19 in the reply filed on June 30, 2004 is acknowledged.
2. Claims 20 and 21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on June 30, 2004.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, rejected under 35 U.S.C. 102(b) as being anticipated by Applicants' admitted prior art (Figs. 1A-1F).

Re claim 1, Applicants' admitted prior art disclose a method of fabricating a semiconductor device having a triple LDD (lateral diffused dopants) structure, comprising: forming a gate structure (10) on a surface of a semiconductor substrate (40), wherein said gate structure (10) includes a first vertical surface and a second vertical surface (i.e., the gate pattern **10** having two vertical side walls as depicted in Fig. 1A); forming a first spacer (50) adjacent to said first vertical surface (i.e., the first spacer **50** formed on the first vertical sidewall of gate 10), a second spacer (50) adjacent to said second vertical surface (i.e., the second spacer 50 formed on the second sidewall of the gate 10), wherein said first spacer (50) has a first thickness and a second thickness that is

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greater than said first thickness and that abuts said first vertical surface (i.e., the first spacer **50** on the first sidewall of the gate **10** has higher thickness in the bottom side of the gate **10** than that of the tope side of the gate **10**) (see Fig. 1B), and wherein said second spacer (**50**) has a third thickness and a fourth thickness that is greater than said third thickness and that abuts said second vertical surface (i.e., ; and the second spacer **50** on the second sidewall of the gate **10** has higher thickness in the bottom side of the gate **10** than that of the tope side of the gate **10**) (see Fig. 1B) performing an implant process to form said triple LDD structure for a drain and a source of said semiconductor device in said semiconductor substrate (see Figs. 1A-1F).

Re claim 2, as applied to claim 1 above, Applicants' admitted prior art teach all the claimed limitation including the limitation performing a silicidation process such that a silicide is formed on a horizontal surface of said gate structure, a first upper portion of said first vertical surface, and a second upper portion of said second vertical surface (see Figs. 1A-1F).

Re claim 9, as applied to claim 1 above, Applicants' admitted prior art teach all the claimed limitation including the limitation wherein said implant process is an ion implant process (see Figs. 1A-1F).

Re claim 10, as applied to claim 1 above, Applicants' admitted prior art teach all the claimed limitation including the limitation wherein said semiconductor device is a MOSFET (metal oxide semiconductor field effect transistor) (see Figs. 1A-1F).

***Allowable Subject Matter***

5. Claims 3-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claims 11-19 are allowed over prior art of record.

7. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record neither anticipates nor renders obvious the claimed subject matter of the instant application as a whole either taken alone or in combination, in particular, prior art of record does not teach “performing a third plasma etch process to remove completely said second mask such that a remaining portion of said first mask defines a first spacer adjacent to said first vertical surface and a second spacer adjacent to said second vertical surface, wherein said first spacer has a first thickness and a second thickness that is greater than said first thickness and that abuts said first vertical surface, and wherein said second spacer has a third thickness and a fourth thickness that is greater than said third thickness and that abuts said second vertical surface,” as recited in claim 11.

Claims 12-19 are also allowed as being dependent of the allowed independent base claim.

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure Sanchez (US/5,102,815), Akram et al. (US/5,719,425), Tseng et al.

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(US/5,920,783), Kim et al. (US/5,929,483), and Tseng et al. (US/6,043,545) also disclose similar inventive subject matter.

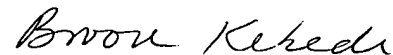
***Correspondence***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brook Kebede whose telephone number is (571) 272-1862. The examiner can normally be reached on 8-5 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on (571) 272-1855. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brook Kebede  
Examiner  
Art Unit 2823



BK  
September 18, 2004